Applicant : Brandon A. Bartling
Serial No. : 10/743,585
Filed : December 22, 2003
Art Unit: 1745
Examiner: Gregg Cantelmo

## SPECIFICATION AMENDMENTS

Please replace the paragraphs indicated below in the original specification with the amended paragraphs, which are marked up to show the changes being made:

Please replace the paragraph beginning on line 10 of page 8 with the following:

In metal-air cells larger that button cells, such as cylindrical and prismatic cells, air entry ports can be formed in parts of the cell housings that are not flat (for example, the side wall of a cylindrical container) or that may become deformed. The tab systems 130, 202 more effectively control oxygen ingress in these larger cells through improved conformity to surfaces in which air entry ports are formed.

Please replace the paragraph beginning on line 15 of page 8 with the following:

Tab systems 130, 202 include an adhesive ~~126~~ 136 (FIGS. 1 and 2) which covers at least a portion of polymer layer 132. The adhesive ~~126~~ 136 can be any removable adhesive that allows removal of the tab systems 130, 202 from the metal-air cells 100, 200 without leaving an adhesive residue that is visible without magnification. Preferably there is no visible residue at up to 10x magnification. The adhesive ~~126~~ 136, can display high initial tack but can also be easily removed, for example, a pressure sensitive removable acrylic adhesive. A suitable acrylic adhesive is available under the trade name FASSON™ R143 from Avery Dennison, FASSON Roll North America, of Painesville, Ohio.

Please replace the paragraph beginning on line 24 of page 8 with the following:

The amount of adhesive ~~126~~ 136 can be measured by the weight per unit area coverage of the surface 104 of cathode can 102. The amount of adhesive ~~126~~ 136 can range from about 21 g/m$^2$ to about 30 g/m$^2$, and it has been found that the application of additional adhesive ~~126~~ 136 beyond a coating weight per unit area of about 30g/m$^2$ does not compensate for the lack of conformability of conventional tab systems. For example, it has been found that if the coating

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weight per unit area of adhesive ~~126~~ 136 exceeds about 30g/m$^2$ then the bond between the metal-air cells 100, 200 and tab systems 130, 202, respectively, can exceed the cohesive strength of the adhesive ~~126~~ 136 and can leave behind an adhesive residue on the surface 104 of the cathode can 102 and across the air entry port 108.

Please replace the paragraph beginning on line 3 of page 9 with the following:

The contact surface area of adhesive ~~126~~ 136 applied to metal-air cell 100, 200 can also vary depending upon the size of the metal-air cell and the number of air entry ports 108 in a cathode can 102. For example, a cathode can 102 having a diameter of about 0.226 inches and a single air entry port 108 having a diameter of about 0.010 inches can have a contact surface area of adhesive ~~126~~ 136 that is about 0.0343 in$^2$, and a cathode can 102 having a diameter of about 0.305 inches and a single air entry port 108 having a diameter of about 0.020 inches can have a contact surface area of about 0.0622 in$^2$. In a metal-air cell 100, 200 that has four air entry ports, for example, a cathode can 102 having diameter of about 0.454 inches and having four air entry ports of about 0.014 inches in diameter can have a contact surface area of adhesive ~~126~~ 136 that is about 0.1301 square inches.

Please replace the paragraph beginning on line 23 of page 10 with the following:

The thickness of tab system 130, and the combined thickness of the first and second polymer layers 132, 204 of tab system 202, having the loss stiffness properties described above, can range from about 0.003 inches to about 0.006 inches, excluding adhesive layer ~~126~~ 136, in alternative embodiments from about 0.0038 inches to about 0.005 inches, and yet in other embodiments from about 0.004 inches to about 0.0046 inches. The range of thickness can vary depending upon the loss stiffness of the tab system 130, 202 within the prescribed range, and can easily be determined by one of ordinary skill of the art. The relative thicknesses of the first polymer layer 132 and the second polymer layer 204 (FIG. 2) can depend upon the material compositions and loss stiffness of the first and second polymer layers 132 and 204 and can be determined by one of ordinary skill in the art. No additional thickness of the polymer layer(s) is needed.

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Please replace the paragraph beginning on line 3 of page 12 with the following:

Tab systems 130, 202 can be made by laminating the polymer layer 132 to the outer polymer layer 134 under heat and coating the underside of the end portion of the sealant member with an adhesive ~~126~~ 136, for example, a releasable pressure sensitive acrylic adhesive, prior to adhering the tab system to the cathode can 102. In another method, the polymer layer 132 and the second polymer layer 204 can each be a tape with adhesive pre-applied, with sheets or strips of polymer layers 132 and 204 adhered together before the individual tabs are cut. A release liner applied to the inner surface of adhesive layer ~~126~~ 136 can remain in place until just before the cut tab systems 150, 202 are applied to the metal-air cell 100, 200. Once the release liner is removed an end portion of tab systems 230, 202 are applied to the surface 104 of metal-air cells 100, 200 by pressing at least a portion of adhesive layer ~~126~~ 136 against the surface 104 of the cathode can 102. The metal-air cells 100, 200 with the tab systems 130, 202 affixed thereto are then packaged for sale.